

IN THE CLAIMS

Please amend the claims as follows:

Claims 1-49 (Canceled):

Claim 50 (Currently Amended): A computer program stored on a computer-readable recording medium with video index information generated based on video information recorded therein, the video index information having a tree structure, the computer program including instructions configured to cause a computer to execute a method comprising:

~~first segment information configured to manage~~ managing a predetermined segment of the video information with first segment information;

~~a plurality of second segment information, each configured to manage~~ managing at least a portion of the predetermined segment of the video information with a plurality of second segment information;

~~first package information configured to manage~~ managing the first segment information with first package information; and

~~second package information configured to collectively manage~~ managing the plurality of second segment information as a group with second package information, wherein

~~the first segment information is further configured to manage~~ further manages the second package information.

Claim 51 (Currently Amended): ~~The computer-readable recording medium~~ computer program of Claim 50, wherein one of the first segment information, the plurality of second segment information, the first package information, and the second package information comprises:

retrieval information configured to enable retrieval of frame and/or audio data.

Claim 52 (Currently Amended): The ~~computer-readable recording medium~~computer program of Claim 50, wherein each of the first segment information, the plurality of second segment information, the first package information, and the second package information comprises:

retrieval information configured to enable retrieval of frame and/or audio data.

Claim 53 (Previously Presented): A video information management method, comprising:

analyzing a plurality of frames containing video information;

generating, apart from the video information, video index information; and

retrieving video information in accordance with the generated video index information, wherein

the video index information has a tree structure comprising:

first segment information configured to manage a predetermined segment of the video information;

a plurality of second segment information, each configured to manage at least a portion of the predetermined segment of the video information;

first package information configured to manage the first segment information; and

second package information configured to collectively manage the plurality of second segment information as a group, wherein

the first segment information is further configured to manage the second package information.

Claim 54 (Previously Presented): The method of Claim 53, wherein one of the first segment information, the plurality of second segment information, the first package information, and the second package information comprises:

visible and/or audible selection information.

Claim 55 (Previously Presented): The method of Claim 53, wherein one of the first segment information, the plurality of second segment information, the first package information, and the second package information comprises:

frame information having

- a node ID corresponding to a location in said tree structure,
- a range of successive frames managed according to the frame information, and
- a pointer indicating a position in the video information.

Claim 56 (Previously Presented): The method of Claim 53, wherein one of the first segment information, the plurality of second segment information, the first package information, and the second package information comprises:

sound information having

- a node ID corresponding to a location in said tree structure,
- a range of successive frames managed according to the frame information, and
- a pointer indicating a position in the sound information.

Claim 57 (Previously Presented): The method of Claim 53, wherein one of the first segment information and the plurality of second segment information comprises:

a node ID in said tree structure,

identifying information for identifying frame-information, sound information and package information to be managed, and
a pointer to upper package information.

Claim 58 (Previously Presented): The method of Claim 53, wherein one of the first package information and the second package information comprises:

a node ID in said tree structure,
identifying information for identifying frame-information, sound information and package information to be managed, and
a pointer to upper package information.

Claim 59 (Previously Presented): The method of Claim 53, wherein the video index information comprises:

an attribute object (106) allocated in said tree structure, wherein
the first segment information, the plurality of second segment information, the first package information, and the second package information each comprise:
a pointer to the attribute object (106), and
additional information can be added to one of the first segment information, the plurality of second segment information, the first package information, and the second package information using the attribute object (106) and the pointer to the attribute object (106).

Claim 60 (Previously Presented): The method of Claim 53, further comprising:
storing the video index information separately from the video information.

Claim 61 (Previously Presented): A video information management method,
comprising:

analyzing a plurality of frames containing video information;
generating, apart from the video information, video index information; and
retrieving video information in accordance with the generated video index
information, wherein the video index information comprises:

a tree structure including:

first segment information configured to manage a predetermined
segment of the video information;

a plurality of second segment information, each configured to manage
at least a portion of the predetermined segment of the video information;

first package information configured to manage the first segment
information; and

second package information configured to collectively manage the
plurality of second segment information as a group, wherein

the first segment information is further configured to manage the
second package information, and

the first and plurality of second segment information is configured to
manage a range of successive frames;

a first link list configured to indicate an order for the first and plurality of
second segment information;

a plurality of second link lists configured to indicate an order of frame and/or
audio data; and

a plurality of view information configured to enable retrieval of the frame
and/or audio data.

Claim 62 (Previously Presented): The method of Claim 61, further comprising:
specifying particular view information from the plurality of view information; and
making a portion of video information corresponding to the particular view visible
and/or audible by using a link list corresponding to the particular view information.

Claim 63 (Previously Presented): The method of Claim 61, further comprising:
storing the video index information separately from the video information.

Claim 64 (Currently Amended): A computer program stored on a computer-readable
recording medium with audio index information generated based on audio information
recorded therein, the audio index information having a tree structure, the computer program
including instructions configured to cause a computer to execute a method comprising:
~~first segment information configured to manage~~ managing a predetermined segment
of the audio information with first segment information;
~~a plurality of second segment information, each configured to manage~~ managing at
least a portion of the predetermined segment of the audio information with a plurality of
second segment information;
~~first package information configured to manage~~ managing the first segment
information with first package information; and
~~second package information configured to collectively manage~~ managing the plurality
of second segment information as a group with second package information, wherein
the first segment information is further configured to manage further manages the
second package information.

Claim 65 (Currently Amended): The ~~computer-readable recording medium~~computer program of Claim 64, wherein one of the first segment information, the plurality of second segment information, the first package information, and the second package information comprises:

retrieval information configured to enable retrieval of sound data.

Claim 66 (Currently Amended): The ~~computer-readable recording medium~~computer program of Claim 64, wherein each of the first segment information, the plurality of second segment information, the first package information, and the second package information comprises:

retrieval information configured to enable retrieval of sound data.

Claim 67 (Previously Presented): An audio information management method, comprising:

analyzing a plurality of frames containing audio information;
generating, apart from the audio information, audio index information; and
retrieving video information in accordance with the generated audio index information, wherein

the audio index information has a tree structure comprising:

first segment information configured to manage a predetermined segment of the audio information;

a plurality of second segment information, each configured to manage at least a portion of the predetermined segment of the audio information;

first package information configured to manage the first segment information;
and

second package information configured to collectively manage the plurality of second segment information as a group, wherein

the first segment information is further configured to manage the second package information.

Claim 68 (Previously Presented): The method of Claim 67, further comprising: storing the audio index information separately from the audio information.

Claim 69 (Previously Presented): A video information retrieval apparatus, comprising:

a video retrieval tool;

a video information library connected to the video retrieval tool; and

a video index information database connected to the video retrieval tool and including a computer-readable recording medium with video index information having a tree structure comprising:

first segment information configured to manage a predetermined segment of the video information;

a plurality of second segment information, each configured to manage at least a portion of the predetermined segment of the video information;

first package information configured to manage the first segment information;

and

second package information configured to collectively manage the plurality of second segment information as a group, wherein

the first segment information is further configured to manage the second package information.

Claim 70 (Currently Amended): A computer-readable recording medium with video index information generated based on video information recorded therein, the video index information having a tree structure, the computer program including instructions configured to cause a computer to execute a method comprising:

~~a first segment information configured to manage~~ managing a first segment of the video information with a first segment information;

~~a plurality of second segment information configured to manage~~ managing a plurality of second segments generated as a result of dividing the first segment according to a first algorithm with a plurality of second segment information;

~~a first package information configured to manage~~ managing the plurality of second segment information with a first package information;

~~a plurality of third segment information configured to manage~~ managing a plurality of third segments generated as a result of dividing the first segment according to a second algorithm with a plurality of third segment information; and

~~a second package information configured to manage~~ managing the plurality of third segment information with a second package information, wherein

the first segment information ~~is further configured to manage~~ further manages the first and the second package information collectively as a group.

Claim 71 (Currently Amended): ~~The computer-readable recording medium~~ computer program of Claim 70, wherein one of the first segment information, the plurality of second segment information, the first package information, the plurality of third segment information, and the second package information comprises:

retrieval information configured to enable retrieval of frame and/or audio data.

Claim 72 (Currently Amended): The ~~computer-readable recording medium~~computer program of Claim 70, wherein each of the first segment information, the plurality of second segment information, the first package information, the plurality of third segment information, and the second package information comprises:

retrieval information configured to enable retrieval of frame and/or audio data.

Claim 73 (Previously Presented): A video information management method, comprising:

analyzing a plurality of frames containing video information;

generating, apart from the video information, video index information; and

retrieving video information in accordance with the generated video index information, wherein

the video index information has a tree structure comprising:

a first segment information configured to manage a first segment of the video information;

a plurality of second segment information configured to manage a plurality of second segments generated as a result of dividing the first segment according to a first algorithm;

a first package information configured to manage the plurality of second segment information;

a plurality of third segment information configured to manage a plurality of third segments generated as a result of dividing the first segment according to a second algorithm; and

a second package information configured to manage the plurality of third segment information, wherein

the first segment information is further configured to manage the first and the second package information collectively as a group.

Claim 74 (Previously Presented): The method of Claim 73, wherein one of the first segment information, the plurality of second segment information, the plurality of third segment information, the first package information, and the second package information comprises:

visible and/or audible selection information.

Claim 75 (Previously Presented): The method of Claim 73, wherein one of the first segment information, the plurality of second segment information, the plurality of third segment information, the first package information, and the second package information comprises:

frame information having

a node ID corresponding to a location in said tree structure,

a range of successive frames managed according to the frame information, and

a pointer indicating a position in the video information.

Claim 76 (Previously Presented): The method of Claim 73, wherein one of the first segment information, the plurality of second segment information, the plurality of third segment information, the first package information, and the second package information comprises:

sound information having

- a node ID corresponding to a location in said tree structure,
- a range of successive frames managed according to the frame information, and
- a pointer indicating a position in the sound information.

Claim 77 (Previously Presented): The method of Claim 73, wherein one of the first segment information and the plurality of second segment information comprises:

- a node ID in said tree structure,
- identifying information for identifying frame-information, sound information and package information to be managed, and
- a pointer to upper package information.

Claim 78 (Previously Presented): The method of Claim 73, wherein one of the first package information and the second package information comprises:

- a node ID in said tree structure,
- identifying information for identifying frame-information, sound information and package information to be managed, and
- a pointer to upper package information.

Claim 79 (Previously Presented): The method of Claim 73, wherein the video index information comprises:

- an attribute object (106) allocated in said tree structure, wherein
- the first segment information, the plurality of second segment information, the first package information, and the second package information each comprise:
- a pointer to the attribute object (106), and

additional information can be added to one of the first segment information, the plurality of second segment information, the plurality of third segment information, the first package information, and the second package information using the attribute object (106) and the pointer to the attribute object (106).

Claim 80 (Previously Presented): The method of Claim 73, further comprising: storing the video index information separately from the video information.

Claim 81 (Currently Amended): A computer program stored on a computer-readable recording medium with audio index information generated based on audio information recorded therein, the audio index information having a tree structure, the computer program including instructions configured to cause a computer to execute a method comprising:

~~a first segment information configured to manage~~ managing a first segment of the audio information with a first segment information;

~~a plurality of second segment information configured to manage~~ managing a plurality of second segments generated as a result of dividing the first segment according to a first algorithm with a plurality of second segment information;

~~a first package information configured to manage~~ managing the plurality of second segment information with a first package information;

~~a plurality of third segment information configured to manage~~ managing a plurality of third segments generated as a result of dividing the first segment according to a second algorithm with a plurality of third segment information; and

~~a second package information configured to manage~~ managing the plurality of third segment information with a second package information, wherein

the first segment information ~~is further configured to manage~~ further manages the first and the second package information collectively as a group.

Claim 82 (Currently Amended): The ~~computer-readable recording medium~~ computer program of Claim 81, wherein one of the first segment information, the plurality of second segment information, the plurality of third segment information, the first package information, and the second package information comprises:

retrieval information configured to enable retrieval of sound data.

Claim 83 (Currently Amended): The ~~computer-readable recording medium~~ computer program of Claim 81, wherein each of the first segment information, the plurality of second segment information, the plurality of third segment information, the first package information, and the second package information comprises:

retrieval information configured to enable retrieval of sound data:

Claim 84 (Previously Presented): An audio information management method, comprising:

analyzing a plurality of frames containing audio information;
generating, apart from the audio information, audio index information; and
retrieving video information in accordance with the generated audio index information, wherein

the audio index information has a tree structure comprising:

a first segment information configured to manage a first segment of the audio information;

a plurality of second segment information configured to manage a plurality of second segments generated as a result of dividing the first segment according to a first algorithm;

a first package information configured to manage the plurality of second segment information;

a plurality of third segment information configured to manage a plurality of third segments generated as a result of dividing the first segment according to a second algorithm; and

a second package information configured to manage the plurality of third segment information, wherein

the first segment information is further configured to manage the first and the second package information collectively as a group.

Claim 85 (Previously Presented): The method of Claim 84, further comprising:
storing the audio index information separately from the audio information.

Claim 86 (Previously Presented): A video information retrieval apparatus,
comprising:

a video retrieval tool;

a video information library connected to the video retrieval tool; and

a video index information database connected to the video retrieval tool and including a computer-readable recording medium with video index information having a tree structure comprising:

a first segment information configured to manage a first segment of the video information;

a plurality of second segment information configured to manage a plurality of second segments generated as a result of dividing the first segment according to a first algorithm;

a first package information configured to manage the plurality of second segment information;

a plurality of third segment information configured to manage a plurality of third segments generated as a result of dividing the first segment according to a second algorithm; and

a second package information configured to manage the plurality of third segment information, wherein

the first segment information is further configured to manage the first and the second package information collectively as a group.